

single sensed cam pulse 32. This scenario is indicated by indicators 38 and 39 respectively. Similarly, sensed cam pulse 34 is an updated pulse that is used twice by controller loop execution 44 as the sensed pulse wheel signals are not updated as the second control loop 45 occurs. This scenario is indicated by indicators 36~~38~~ and 37~~39~~ respectively. Typically, the second scenario occurs at low engine speeds.

Please replace the ABSTRACT section on page 26, lines 1-12 with the following ABSTRACT section starting on page 26, line 1:

ABSTRACT

Aa real-time control system having a fixed loop time is provided. The system includes an input having frequency ranging both above and below the fixed loop time; and a method for utilizing information provided by a pulse wheel and sensed by a sensor. The method includes the steps of: providing a rotating shaft; providing a pulse wheel rigidly affixed onto the rotating shaft; providing a sensor sensing an information out of the pulse wheel, the sensed information comprising a first information and a second information; and when the rotating rate of the rotating shaft is greater than a predetermined value, averaging at least two pulses wherein one of the at least two pulses being related to the first information and at least one pulse being related to the second information; thereby, the second information is used along with the first information for a more accurate representation of the information.